2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

bag is made is tighter and more closely twisted, giving the netting a ribbed appearance.

Pl. XII exhibits the detail of a large bag of simple loop-work alternating with knotted net, the looping occurring only near the top and bottom.

Another form of small bag is made from the scrotum of a buck, stuffed with ashes while still fresh, and dried. Bags of this nature were seen worn about the necks of small children, and were probably filled with hunting charms. They could not be purchased, as they were regarded as possessing magic properties.

Baskets.—Bags and baskets of open weave and of sizes ranging from that of a cup to those as big as a washtub, were seen. The latter are used chiefly for carrying burdens or for storage. Besides these baskets and bags, carrying-straps of bark were used, and with these passed over the forehead, as among the forest Indians of northern America, heavy burdens could be transported for long distances. Pl. XIII illustrates the use of a carrying basket and

2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

372 generated, which requires only a few moments. Even those Indians who have modern appliances use the hand drill for lighting ceremonial fires.

[237] [412] *Fire Fans.*—Pl. XXIII, *b*, represents a type of feather fan, used chiefly to accelerate flame. They are composed of nine or ten feathers of a large bird, laid parallel and fastened together at the base by a split reed wrapping, in some cases reinforced with a binding of cotton or other fiber.

501 [439] *Canoes.*—Although the Bribri have "cayukas" obtained from foreigners, no canoes of native manufacture were found. A toy canoe, about three feet long, was observed in one settlement; this was fashioned from a log and pointed at both ends. Gabb states that even in his time the Bribri had no canoes of their own.

● 282 415 [171] *Leather Pouches.*—Pl. XXV, *b*, illustrates a crude leathern pouch used as a carrying bag; it closely resembles a common North American type.

534 *Musical Instruments.*—The drum is the most important musical instrument of the Bribri. In shape the common native instru-

2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

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[facing p. 185]

BLOWGUN PELLETS OF CLAY; LEATHER POUCH; SHAMAN'S CALABASH RATTLE
(Length of the rattle, 7½ inches)

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283 CORDAGE--types of cordage made (e.g., thread, yarn, string, rope); materials used (e.g., bast fiber, cotton, wool, silk, sinew, hair); preparation of materials (e.g., soaking, retting); techniques of manufacture (e.g., twisting, spinning, braiding); special apparatus (e.g., spindle, spinning wheel); specialized personnel and organization; etc. See also:

Industrialized manufacture of cordage 288
Sewing 294
Nautical rigging 501
String figures 524

1:Gabb N-5 (1873-1874) 1876
SA19 Talamanca SA19

it be perhaps, to help gather and to help carry home the corn. All the sewing is done by the men, even of the little shirts or jackets worn by the women. In carrying loads, the women rival the men in power and endurance. It is nothing uncommon to see a woman, with a big load on her back, and her year old baby seated on top, with his little legs dangling over the front edge of the load. The little monkeys ride securely there through the bush and dodge the overhanging vines and branches as expertly as could be done by an old horseman. When working for each other the people use their own machetes and axes, as a matter of course; but when hired by a foreigner, they invariably expect to be furnished with tools by their employer. 462 482 464

Domestic industry is at the very lowest ebb. Manufactures can hardly be said to exist. The only articles made, beyond furniture, arms &c., are hammocks, net bags, cotton cloth, and pottery. All of these are coarse and inferior in quality. None of the skill exhibited by the Guatemalan Indians exists here. The hammocks are made of a coarse twine, derived from the leaves of a species of *agave*, and are loosely woven in a frame with a needle. They are hardly long enough for an ordinary person to lie at length in them with comfort, and are used more for seats than for sleeping. They are swung between the posts of the house, near the door, and at a height of from a foot to a foot and a half from the floor. Everything is carried in net bags. They are made with a needle of bone and "meshed" like our fish nets. Some of them are very fine and they are of all sizes, from three inches to two feet deep. They are suspended by a string made of the same material, usually an inch wide and woven openly, in the same manner as the hammocks. The material of the finer and ordinary bags is the fibre of a species of aloe, or *agave*, much finer than that used for hammocks, and naturally nearly white. It is usually dyed of various colors to suit the fancy of the maker. The colors are obtained from several of the native plants and are very durable. A coarser kind is made of the same fibre as the hammocks. These are made with larger meshes, and are used to carry plantains, corn &c., from the field to the house. 28 32 286 [513] [386] [482]

The people of Tirlbi procure all their bags from the Bri-bris, and I believe, their hammocks also. The Vallentes, living beyond the Tiribis, in the adjoining parts of the District of Chiriqui, make similar bags, but much finer and more elaborately wrought. The colors in the Bri-bri nets are always arranged in simple bands, while the patterns of the Vallente nets are often complicated and exhibit considerable taste. 438 531

Belts, breech-cloths, cloths for wrapping the bones of the dead, and women's petticoats are woven of cotton. The cotton is raised with no care beyond planting a few seeds and allowing the plants to take care of themselves. They grow to the height of ten or twelve feet, and almost every house has a few in its vicinity. The yellow flowers, buds, and open bolls are seen all the year round, together on every tree. The women collect the ripe cotton, pick it from the seeds with their fingers and spin 286 [248] [283]

&c.

1:Gabb N-5 (1873-1874) 1876
SA19 Talamanca SA19

protection from the latter. Back of the fire-place are ranged the chicha jars, two or three in number. Being round bottomed, they stand on the floor propped up by stones. Scattered around the house are stools or benches, rarely more than six inches high, each carved out of a solid block of wood. They generally have four feet, though occasionally a small, roughly made one is seen, with but two feet, and which is only kept in upright position when somebody is sitting on it. The pots and kettles about the fire are all of American cast iron, and vary in size from less than a quart to ten gallons capacity. Hanging from the barbacue over the smoke, is generally seen a cocoanut shell or a leaf bundle full of salt. It is kept here because it is the only place where it will remain dry. Suspended from the roof are baskets of from one to three cubic feet capacity. They are usually made of a peculiar, very hard, and very flexible vine. These are the trunks of the people, and in them are kept their clothing and all of their little personal treasures and ornaments. They are also used for storing corn or other seeds, like beans, the basket being then lined with leaves to prevent spilling. The women also use them for carrying water calabashes. These are either gourds or the shells of the fruit of the calabash tree, with a small round hole cut in one end. One other use of the baskets is to carry loads when the net bags are scarce. These nets are also often suspended about the house in the same manner as the baskets. Axes, always of the make of Collins, of Connecticut, and long machetes, either of this or of some inferior make, are to be found in every house. Collins' hardware has gained a permanent reputation among these people, who will give twice as much for a leather handled machete of this brand, as for any other kind. Of other tools, the most noteworthy is a heavy stick sharpened to a chisel edge at one end and beveled on one side. This is used for making holes in planting corn or plantain sprouts, and the edge is used to beat down high grass. It works almost as effectually as a scythe. Hooked sticks for lifting the iron kettles, others cut with short radiating branches at the end, like a five or six pointed star, for stirring chocolate, and paddles for stirring food are always found near the fire. Calabashes and gourds with small holes cut in one end for water bottles, and other calabashes cut in half for drinking cups, are also found in every house. Food usually, and even drink sometimes, are served in leaves, called in Spanish "platanillo," smaller and tougher, but otherwise resembling those of the plantain. These are dexterously folded so as to hold a quart or more of fluid without spilling.

Of arms, besides the inevitable machete and very good double-barreled guns, they possess bows made of a very tough kind of palm wood. They are straight and usually about five feet long. The string is made of the finer kind of *agave* fibre. The arrows are of three kinds. All have a butt two and a half to three feet long, made from the light flower stalk of the wild cane. This is a mass of pith, with a thin hard shell on the outside, giving the requisite stiffness. They are not feathered. The

2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

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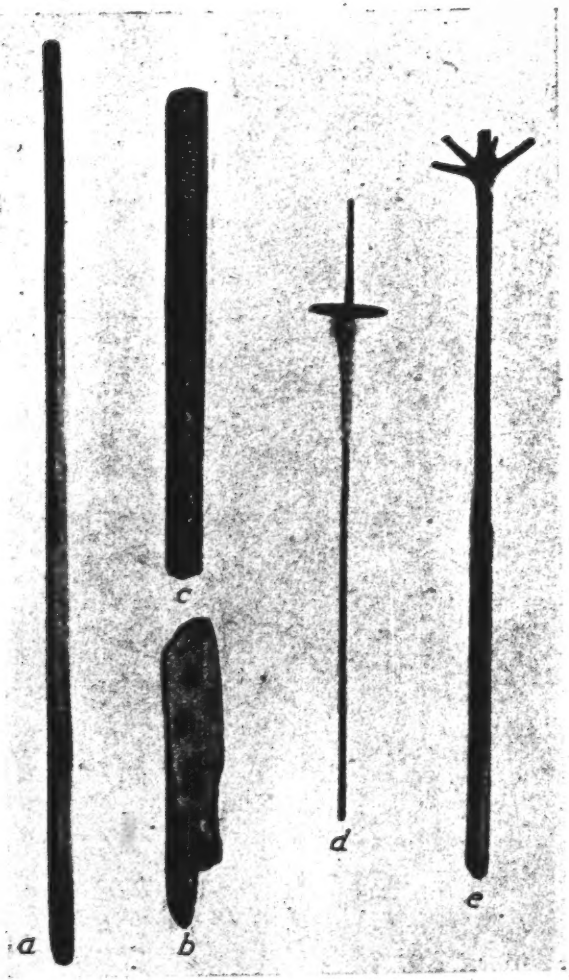

VARIOUS IMPLEMENTS

a, Fire-drill; *b*, Hearth; *c*, Bark-beater; *d*, Spindle; *e*, Cacao stirring stick. (Length of *e*, 26 inches)

[facing p. 72]

2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

286 Ramón, "the king." This is a narrow strip, less than an inch broad and 28½ inches in length; in color it is red, with a blue central band and white stitches on the border. It is a fine piece of native work.

283 Pl. XIX, *d*, illustrates a wooden spindle for cotton thread. A spindle whorl of tortoise-shell from another spindle was also obtained.

301 237 789 778 *Necklaces.*—The Bribri women no longer wear the heavy bead necklaces described by Gabb, although the men still delight in similar ornaments, but made of jaguar teeth. These are especially difficult to obtain, since the Indians seem to have the idea that the possession of one of these ornaments endows the owner with some of the powers of the animal from whose teeth they are made.

301 Pl. XX, *d*, represents one of these ornaments, made of exceptionally large teeth strung on a fiber cord, alternating with small, red-glass trade beads. Fig. *c* of the same plate shows a smaller but more primitive necklace, in which the alternating beads are made of some species of snail-shell,

2:Skinner E-5 (1917) 1920
SA19 Talamanca SA19
Bribri

Bark and Fiber Articles.—Besides the blankets of beaten bark used for beds and as wrappings for the bones of the dead, the Bribri have burden straps of the same material. These are merely plain bands of tapa. The Indians say the bark is stripped from the trees in sheets, then pounded on a log with a wooden bark-beater. 287

Twisted fiber string and ropes, from several native substances, including agave, are made in varying degrees of fineness. These are used for every purpose, from bag and hammock weaving to tying house-posts and fastening drum-heads, and as cord for their suspension. 283

Weapons.—Besides the digging-stick war-clubs above described, the Bribri declare that in their former wars they used lances, those remembered being about six feet long, of hardwood tipped with iron. Gabb reports obtaining one of these, and also a small, round shield of tapir hide—another obsolete article. 411

Pl. XVII, *d*, represents a bow, 4 ft. 10 in. in length, and, as usual, furnished with a fiber string. The arrows are compound, having a reed shaft and a hardwood fore-

3:Stone E-5 (1945) 1949
SA19 Talamanca SA19
Boruca

when working and extra strength is needed, 276
the Indians chew a root from a plant called *cordoncillo* in Spanish. It is a member of the *Piper* family, and has various uses among these Indians (see pp. 20, 21, 27).

HOUSES

walls to serve as supports. The intervening 342
space is filled in by not so thick poles placed very close together, either vertically as in figures 5, *c*, *d* and 4, *c*, or horizontally as in figure 9, *c*. When they are placed horizontally, they are woven in and out of the supporting vertical poles which, of necessity, are more numerous in this type of construction. When the wall poles are vertical, thicker poles are placed horizontally in a single line on the outside at the bottom, the center, and the top, acting as a supporting band to hold the wall in shape. These bands are bound to the other poles with fiber ropes.

There are three kinds of fiber used in house 342
construction. The most popular, and practi- 283
cally the only kind found in Boruca houses, is that known as the *bejuco de fierro* or *negro*. This is a thick vine growing in the forest (perhaps *Anthurium scandens* [Aubl.] Engler).[21a] Its leaves resemble those of the bean known as *haba blanca*. From this vine, as many as eight cords are obtained, depending, of course, on the width desired. Another fiber used is called *bejuco de hombre* and is known also as *andariel*. This is really an aerial root and is found in house construction on the coast, around Palmar Norte, where the *bejuco negro* is not obtainable. The third type of fiber is made from the bark of a tree called *capulin blanco* (*Muntingia Calabura* L.). Sometimes both horizontal and vertical wall construction are found on the same house (see fig. 6, *a*). Windows are rare, 342
but when present, the framework is always made of the thicker poles. The window shutter, however, is of planks and the hinges bought at *ladino* stores. Doors also have a framework of poles. The doors themselves are made of the small vertical poles following the vertical construction of the walls and are tied with vines, no hinges being used. Frequently, the walls have a rough coating of *bajareque* both inside and out. *Bajareque* is a mixture of cow dung and mud. Strangely enough, the

505 sea, skirting the coast westward to Quepos and eastward to the Golfo Dulce, as well as out to Caños Island, furnished another avenue
501 of travel. Dug-out canoes are used in the river, and a larger canoe, called a *bongo* in Spanish, was used on the sea. These *bongos* had sails of bark cloth (see p. 18) which were fastened to a framework of sticks. There are
396 only three kinds of trees utilized for making
[824] the canoes, the *espavel*, the sandbox tree, and the *guanacaste* (*Enterolobium cyclocarpum* [Jacq.] Griseb.). The canoe is caulked
396 with wax, from certain bees (*Apis Trigona*?
237 or *Melipona*?), which live in the ground on
[136] Caños Island. It is said that this is one of the few places in which this species of bee is known to exist in southeastern Costa Rica. It is interesting that this wax contains a majority of resin and very little wax, as the analysis given in the appendix shows (see p. 41). Formerly, the Indians visited Caños Island especially to obtain the wax, coming away with as much as 30 or 50 pounds in their canoes. Nowadays, since the island is no

[Continued at top of page 15-B]

MANUFACTURES

283 **Cordage.** The *Boruca* have two principal fibers which serve for making cord, and two which are employed but slightly. The chief fibers are *majagua* (see p. 7), and the *bejuco negro*, or, *brit* (see p. 11). These are used for making rope, string, baskets, and hammocks. In addition to this, the leaves of the *pita* plant and, at times, the leaves of the *cabuya* plant (*Furcraea* spp. and *Agave* spp.) are utilized for bags and rope.

The *majagua* is prepared by cutting a piece of the tree and stripping off the extreme outer part, using only the inner portion. To make rope from this, the fiber is tied around a tree or post and cut into strips, the quantity depending on the quality of rope desired, as the greater the number of strips, the finer the product. Figure 8, *c* shows the *majagua* fiber ready for use. The *bejuco*, or vine, is prepared by scraping off the outer bark with a knife of *caña blanca*, washed, and then cut into the desired strips. It takes a day to make this vine ready for use. The *pita* is also scraped with a cane knife until it is white all over. It is then washed in the creek or river, and cut into the

[Continued at bottom of p. 15-B]

longer easily accessible, caulking is done with the wax from a related species found around Boruca, or from the glue made from a palm belonging to the genus *Elaeis* and called in Boruca, *tuskra'* (see p. 19), and with the gum of the wild rubber tree (see pp. 19–20).

There remain certain families of "river Indians" who are famous for their skill with the dug-outs, particularly in the rapids, and there were formerly outstanding sailors for the sea-going *bongos*. On the river, both paddles with plain handles and poles are used.

Carrying Devices. Generally, the women carry cargo (see figs. 7, *a*; 8, *a*). The men very seldom do such labor. A tumpline is used to support the article which rests on the back of the individual or in a *haba* (see below), which is also carried in a similar manner (see fig. 8, *a*). Occasionally, string bags (see fig. 8, *b–4*, *5*, 7, and p. 18) are swung from the forehead down the back. They are, however, rarely used like this, being generally left to hang on the house wall. Babies are carried in a shawl or cloth on the back.

MANUFACTURES

desired pieces. *Pita* is not used for heavy rope, but is made into cord and a "fishing line" which is tied to the fishing spear or arrow (see p. 8). The leaf of the *cabuya* is beaten on stones until it is pulpy, after which it is washed, and then dried in the sun. When dry, it is pulled into strips.

Figure 8, *d* is a sample of the two kinds of rope the *Boruca* make. The upper portion is twisted and braided, while the lower half is only braided. This last method makes a stronger rope. When the rope is finished, it is tied at the end, and one of the strips is twisted around the whole, passed through the braid, and then pulled tightly.

Basketry. The typical basket of the *Boruca* is what is called in Spanish the *haba*, and in Boruca *ba'va*. It is woven by the men. The *haba* (see figs. 7, *b–2*; 8, *a*, *b–1*, *3*) is made only from the *bejuco negro*, the strips of which must be cut in lengths according to the size desired for the finished product, as in this type of basket one cannot add extra length or depth. The smallest *haba* is about 9 inches in depth, and is used for washing corn. For a

3:Stone E-6 (1945) 1949
SA19 Talamanca SA19
Boruca

medium-sized *baba*, the strips are usually around 30 inches long, while the largest are around 50 inches. The base of the *baba* is triangular with the corners and two sides rounded. The third side is kept flat to fit more steadily on a person's back. In making the basket, the strips are placed on the ground and the foot put over as many ends as possible to hold the pieces in place. The opposite ends are left free, and the weaving is done with the fingers (see fig. 9, *a*). The pattern resulting from this is a hexagon (see fig. 7, *b–1*). When the base is completed the strips are doubled upward and interwoven, particularly at the corners, and horizontal strips are added as strengthening bands at the start and finish of every hexagon, the pattern remaining the same as that of the base. At the very top, a horizontal band is overlapped by the main strips and woven into the rim. A wide ribbon of the vine is fastened around the *baba* when used for carrying. This band is suspended from the forehead of a person, and the basket hangs flat on his back (see fig. 8, *a*).

Baskets are also made from the *bejuco negro*, or, preferably, from the vine called *anda-riel* (see p. 11). These baskets are circular with a decided bulge or projection a little above the base. They vary in size from short baskets with handles to very tall ones (see fig. 7, *c*). The strips used for the baskets are cut narrower than those for the *baba*, and may be added to in order to increase the depth of the article. As with the *baba*, the strips are put on the ground at the start. They are crossed, however, in the center, and another strip is then tied to this center portion or base, and is woven in and out of the projecting strips by hand. Adding of strips to make the basket larger is accomplished by weaving a strip well into the basket until an end appears on the other side of the base.

Weaving. The *Boruca* are today the only Indians of Costa Rica who do any weaving, in spite of the fact that they do very little. In 1945, there were only six women in the village of Boruca who wove skirts, *mantas*, and one woman who wove only men's belts. Almost all the women and many of the girls, however, knew how to make thread. A common practice was to make thread and give it to one of

[*] Barrett, 1925, pt. II, pp. 252, 258.

3:Stone E-5 (1945) 1949
SA19 Talamanca SA19
Boruca

286 the weaving women to use, and then pay her
[457] a small sum for her work if a skirt was desired.
283] Those who did not wear *mantas* still made the
thread and sold it or exchanged it with the
weavers for some other object. The primary
cause for lack of enthusiasm in weaving ap-
pears to be the class of cotton available. The
24-8 *Boruca* plant a tree cotton (see p. 6) that
yields a very small pod, and consequently, the
Indians become discouraged at the produce.
The famous "colored cotton," which is so
called as it is light brown, is also planted. This
is the cotton which called the Spaniard's atten-
[171] tion so markedly in El Salvador during the
Conquest, and which is used today by the
Cayapa Indians of Ecuador.[25] This colored
cotton does not have to be dyed. It is, how-
ever, more delicate to make into thread than
283 the white cotton, as it breaks oftener. The
[236] best spindles, as the best looms, and weaving
instruments of the *Boruca* are made of peji-
baye palm, although *chonta*, both *mana-kra'*
and more seldom *kanagira* (see pp. 12–13), are
considered good (see fig. 9, *b*). The whorl, is
commonly of bone, but pejibaye, *chonta*, and
occasionally pottery whorls are seen. Some
of the whorls are undecorated, but some have
incised horizontal grooves (fig. 9, *b–3, 4*).

To make thread, the cotton is removed from
[248] the burr and carefully deseeded by hand, the
seeds being saved for planting. The cotton is
then put on a hide, and the women take two
sticks, one in each hand, and beat the cotton
making it as smooth as possible, after which,
it is pulled into wide strips and rolled into
balls. When the cotton is ready, the woman
sits on a low bench and puts the spindle in a
gourd on the ground. She holds the spindle
in her right hand and the thread in her left,
between the thumb and index finger, working
so fast that it seems as if the spindle is rarely
in her hand at all. This process the Indians
call "dancing," as the spindle literally dances
in the gourd (see fig. 5, *c*).

386 Once the thread is made, it is either left its
natural color or dyed. The *Boruca* still have
a few colors which they dye themselves, but
red, yellow, green, and bright blue are bought,
[139] generally not as dyes, but as already colored
mercerized cotton thread, at the nearest *ladino*
town. Due to the relatively high price of these

415 ing liquids, in the kitchen, and for carrying water to the fields or on trips. Interestingly enough, a ring base to sustain the gourd erect does not seem to be known, the vessel being placed on the ground and balanced by rocks or the legs of the *fogón*. In addition to the [231] uses mentioned above, gourds are used as bee hives (see fig. 4, *d*), as a receptacle for the ● [283] spindle whorl while making thread (see fig. 5, *c*), for carrying seed when planting, and are employed extensively as sieves. The use of the gourd as a sieve is very common amongst the present close neighbors of the *Boruca*, the *Talamanca* peoples.[31] For use as 412 a sieve, the gourd is covered with holes made 415 by a combination cutter and puncturer. This tool has a handle of pejibaye palm in one end of which a forked piece of metal with one prong longer than the other is inserted and bound by string. The longest prong is shoved into the gourd until the shortest penetrates the outer surface deeply enough to cut a line in a circle. This operation has the double [531] effect of making a circular hole and at the same time a line design around the aperture [534] (see figs. 7, *b–8*; 7, *c–3*). Gourds are also made into *maracas* or rattles to accompany the drum at celebrations (see p. 29). There is 531 no rule about the decoration of the gourds. They are either left untouched, or are carved in various designs, the most popular of which is the leaf motif, although animal figures sometimes appear. The patterns are cut with a knife, and left to turn a darker color with time.

381 **Glues.** Glues are rarely used by the *Boruca*. 314 A glue that is used for mending vessels, or, at times for water-proofing the dug-out canoes is made from a small palm (*Elaeis melanococca Gaertn.*) called in Boruca *tuskra'*, *tus*, meaning "short," and *kra'*, meaning "plant." This palm has thorny leaves and red fruit (see p. 15). To make the glue, the trunk is cut in pieces and spread out in the open so that the dew has easy access to the sap. The following morning, the residue, which is the glue, is gathered.

323 **Pottery.** Very little pottery is now being 177 made by the *Boruca*. The European war, however, has caused iron cooking vessels to become practically unobtainable as well as prohibitive in price, and the Indians are slowly

[31] Skinner, 1920, pp. 66–67.

3:Stone E-5 (1945) 1949

SA19 Talamanca SA19
Boruca

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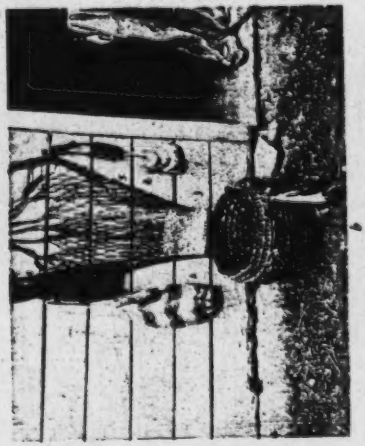

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4, Girls laden with oranges in bales in front of school house. b, Cordage artifacts used by the Bribri; 1, baby; 2, 4, 7, string bags made by the Talamanca people; 3, baby; 5, string bag made by the Bribri; 6, hammock made by the Bribri. c, Malpigui ready for use. d, Samples of rope techniques.

[p. 58]

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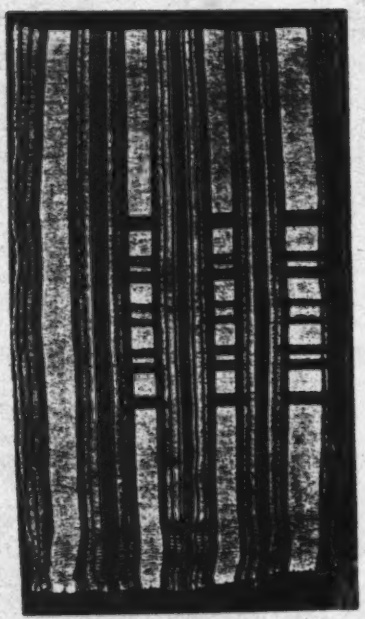

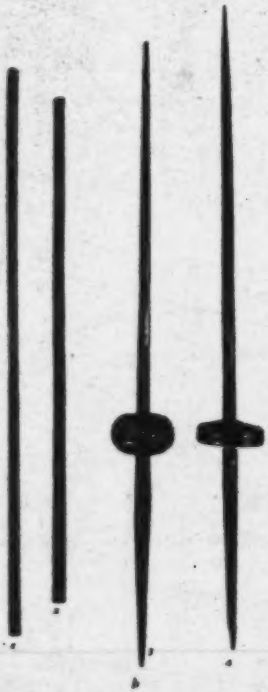

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a, Mano or shirt with single-faced weft-pattern weave (courtesy of Peabody Museum, Harvard University). b, Pejibaille artifacts: 1, 2, pejibaille rods used in weaving; 3, 4, spindles and whorls of pejibaile (courtesy of Peabody Museum, Harvard University). c, Start of a hake. d, Woman weaving man's hake.

[p. 59]

[Ought to read "peji baye." See errata, p. 51. —Analyst]

492 184 Very seldom on the Caribbean, but frequently on the Pacific side, horses and oxen are used for transportation (*see* Domestic Animals; fig. 2, *d*).

50 [133] **By Water.** The rivers in Bribri and Cabécar territory on the Pacific side do not lend themselves to water transportation. It is interesting to note that here the usual word for a boat, in both tongues, is a corruption of the Spanish [192] *canoa: kanó* in Bribri; *konǫ* in Cabécar. The Bribri of the Caribbean littoral, however, use besides the term just given, the word *ru*.[66]

Both Gabb and Skinner call attention to the lack of water craft among the Bribri,[67] but Pittier mentions cedar and ceiba canoes, some equipped with a sail and rudder for the sea.[68] This last type is not seen today, but dugouts are fairly common in the Sixaola River, men and women paddling or poling when necessary (*see* Canoes). Balsa logs are tied together with vines making rafts and are used to cross rivers in parts of upper Talamanca. The Cabécares are not seamen in any sense, and only those married to Bribri in the Sixaola Plain are known to manage dugouts.

482 **Carrying Devices.** The tumpline (*see* Fibers) is used by men around the shoulders or chest. By women, it is worn around the head for heavy burdens. Babies are carried by women [854] who tie them in a tumpline around the shoulders or in a piece of *mastate* around the waist (Fig. 9, *d*).

[TEXT CONTINUES TOP OF P. 21(B)--ANALYST]

MANUFACTURES

283 [824] 248 [790] **Fibers.** There are many fiber plants used for cordage by these peoples. White cotton, one or two bushes of which are found near every household, is mainly ceremonial in use, being fashioned into string for tying death bundles (*see* Funeral and Bone Burial). The women make this by rolling the deseeded fibers with the palm of their hands over their thighs. The result is an uneven lumpy string but one that [777] they consider as very essential to prevent bad luck and to protect the dead. For use in sewing [294] clothes, some women also make cotton thread on spindle whorls. Occasionally, small carrying nets are manufactured from it.

[TEXT CONTINUES BOTTOM OF P. 21(B)--ANALYST]

[66] *ru* is also the Boruca word for any water craft.
[67] Gabb, 1875, p. 523; Skinner, 1920, p. 86.

6:Stone E-5 (1956-1959)1962
[P.21(B)]
SA19 Talamanca SA19
Bribri
Cabecar

482 (fig. 9, *d*). *Havas* fastened to the tumpline are also used by both sexes to carry cargo.

487 [137] [438] **Roads.** The forest of southern Costa Rica is among the densest in the world. Trails, however, have been kept open since pre-Columbian times when trade was common between the Pacific and Caribbean sides (*see* Trade). Even today, one passes through cleared tunnels under the matted roots of trees and shrubs which, according to tradition, are the same passages "used by all our grandfathers." Of the three trails which cross the range (*see* Geography), that connecting the Lari region with 491 Cabagra is famous for its hammock bridges made of vines which span chasms and swift-flowing, boulder-ridden rivers. These bridges are also known in upper Chirripó. They are [192] called in Bribri *t'sá* which is the same word used for hammock, vine, bridge, and string. The vines are woven netlike to form one or two sides. The first type can be either a single net, the person crossing sideways as a crab, or it is placed as a railing along a log. To make the second style, two stout vines are swung across the space to be bridged and fastened securely on both sides. A narrow foot path of braided vines is tied to these so as to form a *V*, and the sides are laced in a large V-shape, or netlike, to the braided portion (fig. 11, *a*). These hammock bridges are remade every six months by the men from the nearest houses.

MANUFACTURES

283 [824] [172] [462] One of the most important fibers comes from *pita* (*Agave* sp.). The presence of this plant in the forest is a sign, like the *pejibayes*, of a former habitation site. *Pita* is made into thread to tie arrows, carrying nets, etc. Both men and women prepare this fiber, although it is generally the women's task. The leaf is cut, peeled, and both ends chopped off to even the length. Every five inches the leaf is folded to soften it, and then it is put on a log and scraped with the blunt edge of a machete from the top to the bottom. At the bottom end, the woman pulls the remaining outer fibers off and ties the two ends of the leaf

[88] Pittier, 1938, p. 13.

283 together, or makes a knot in each, throwing away the outer portion. She beats the peeled leaves with a stick and wets them thoroughly, tying all ends together. The beating and washing are repeated to remove whatever green of the outer leaf might remain, and then it is bleached in the sun. Finally, the fiber is rolled out on the knee, backwards and forwards, in two thick strands and afterwards rolled together, or it is divided into the size wanted and rolled separately.

[824] *Cabuya* (*Furcraea* sp.) is also very important. It is treated in the same manner and made into rope and thread for hammocks, especially by the Bribri men. The fiber is rolled on the [462] thigh by both sexes to make thread. The men use a *pejibaye* needle to weave it and stretch the finished product to the desired size by means of a long stick.

[824] On both sides of the range, *peine del mico* [482] (*Apeiba tibourbou* Aubl.) is fashioned into rope and bands to carry packs. There are two ways of preparing this. The best method is rather drawn out because the fiber must come from the inside and not from the outer bark which breaks easily. This requires removing the outer portion as the bark is taken from the tree. The inside is held under water with stones for 15 days. The interior part of this separates and a gluelike sap exudes leaving a white fiber. The second method does not call for removing the outer bark first. The process in the water is the same but the fiber is stained dark by the gluey sap, sand from the river, and the outer bark.

[824] *Algodoncillo* (*Pavonia dasypetala*) yields a fiber for making rope and tumplines. The outer bark is removed as a glove from the stem of the bush and the inner portion is used.

[824] *Guarumo* (*Cecropia* sp.) is used in Tala- [227] manca to make conical fishing nets which [171] closely resemble those of the northern Guaymí [482] in Panama. On the Pacific slope, carrying nets are made from it.

[824] A fiber for rope is taken from the *burillo* or *burio* (*Heliocarpus excelsior*) on both sides of the range. It is stripped from the tree and passed back and forth over cuts made in a hard wood tree until the outer bark is removed. The Cabécar men and women make such rope.

[824] The bark of *majagua* (*Hibiscus tiliaceus* L.

283 824 sp.) is used on the Pacific slope for tumplines and rope.

287 [462] [824] **Bark Cloth.** Men generally make bark cloth as it requires considerable strength. There are three kinds of *mastate* or bark cloth made in Talamanca and two on the Pacific side. Red *mastate* (*Brosimum costaricensis* Liebmann) and white *mastate* (*Brosimum* sp.) are used on both slopes. The third kind is *Poulsenia armata* (Miq.) Standl; Moraceae. The method of preparation is similar.

The bark of the first two trees is cut and rolled at a right angle to the grain. The outer surface is removed by beating with a stick and then with a wooden club cut with horizontal grooves, one side of which is usually slightly curved. It is soaked in water, pulled to the shape and size desired, and left in the sun to dry. Stones are placed at the corners to hold the shape. The cloth is used for blankets, [513] hammocks (amongst the Cabécar only), to carry babies, as tumplines, belts, and loincloths, and as an article of trade with the [438] Borucas.

The third type, *testí* in Cabécar, is prepared by cutting around the tree with a machete the desired size for the cloth. Then a wedge-shaped wooden stick is used to peel it off the trunk. The piece is then doubled and the outer bark is cut in a thin sheet and rolled back, leaving the cambium or inner bark. This is soaked for several days and is afterwards beaten with a wooden stick to make it pliable and soft. It is used primarily for blankets.

[824] [415] In Talamanca and in Chirripó, the wild rubber tree (*Castilla* sp.) also furnishes a cloth for hunting pouches.

286 415 **Net Bags.** The Bribri have long been famous for the manufacture of net bags (*see* Trade), although the Cabécares are known to make them occasionally. They serve a variety of purposes besides being a depository for personal and household things. They are used for hunting and for carrying all manner of cargo, from plantains to babies. Most bags are made of *pita* or *cabuya* thread and have a long handle which also acts as a tumpline. The usual shape [224] is baglike, but those for blow-gun hunting are elongated and have small divisions or pockets. [227] At times in Talamanca, casting nets are made from the same material and in the same technique.

6:Stone E-5 (1956-1959)1962
SA19 Talamanca SA19
[P. 100(A)]
Bribri
Cabecar

FOOD VALUE OF THE PEJIBAYE[2]

(*Guilielma gasipaes* Bailey)

Constituents are measured and in quantities of 100 grams.

146
262

		Red Variety	*Yellow Variety*
Humidity	gm.	36.4	49.6
Ether extract	"	8.17	3.53
Crude fiber	"	0.8	1.1
Nitrogen	"	0.633	0.401
Ashes	"	1.12	0.86
Calcium	mg.	14.4	8.9
Phosphorous	"	55.2	46.1

[Text continues TOP of p. 100(B)--analyst]

PLANT LIST WITH USES

BRIBRI

824

	Latin	*Use*
tsíLi	*Heliocarpus Excelsior*	hammocks, rope, carrying bags
[283] kúrk	*Cecropia* sp.	to make fiber (burillo)
akuk-kLɔ	*Croton Glabellus*	for incense of copal
[278] kúLí	*Cossus* sp.	for fever—mash stem and boil
[342] tsáchica	*Menispermacea Aesampeln*	used in building house instead of nails
[278] tɔbéchica	*Cissus* sp.	use whole vine, for colds, etc.
dipáchica	*Eupatorium Vitalbae*	fish poison
dufskLɔ	*Vernonia Patens*	to stop nose bleed; use leaf

[Text continues middle of p. 100(B)--analyst]

CABÉCAR

824
278

	Latin	*Use*
harbɔ	*Phyllantus* sp. Pittieri	fish poison
chatɔ	*Serjania* sp.	fish poison
	Pothomorphe piperaceae	boil leaf; bathe children with liquid and wrap in mastate to cause perspiration
[381] botuLá	*Eufobia sapium*	glue
chicarté	*Bocconia frutescans*	boil the root and drink the liquid for stomach pains

[Text continues bottom of p. 100(B)--analyst]

[2] English: Peach Palm.